Christian Eggeling

List of Publications by Year
in descending order

147 papers	17,254 citations	27035 58 h-index	17891 125 g-index
171 all docs	171 docs citations	171 times ranked	17860 citing authors

#	Article	IF	Citations
1	A Highly Fluorescent Dinuclear Aluminium Complex with Nearâ€Unity Quantum Yield**. Angewandte Chemie - International Edition, 2022, 61, .	7.2	10
2	Diffusion and interaction dynamics of the cytosolic peroxisomal import receptor PEX5. Biophysical Reports, 2022, 2, 100055.	0.7	4
3	Biocompatible sulfated valproic acid-coupled polysaccharide-based nanocarriers with HDAC inhibitory activity. Journal of Controlled Release, 2021, 329, 717-730.	4.8	15
4	Challenges of Using Expansion Microscopy for Superâ€resolved Imaging of Cellular Organelles. ChemBioChem, 2021, 22, 686-693.	1.3	26
5	Influence of nanobody binding on fluorescence emission, mobility, and organization of GFP-tagged proteins. IScience, 2021, 24, 101891.	1.9	7
6	Super-Resolution STED Microscopy-Based Mobility Studies of the Viral Env Protein at HIV-1 Assembly Sites of Fully Infected T-Cells. Viruses, 2021, 13, 608.	1.5	3
7	Aggregation and mobility of membrane proteins interplay with local lipid order in the plasma membrane of T cells. FEBS Letters, 2021, 595, 2127-2146.	1.3	25
8	Long-term STED imaging of membrane packing and dynamics by exchangeable polarity-sensitive dyes. Biophysical Reports, 2021, 1, 100023.	0.7	19
9	How to control fluorescent labeling of metal oxide nanoparticles for artefact-free live cell microscopy. Nanotoxicology, 2021, 15, 1102-1123.	1.6	2
10	Protein induced lipid demixing in homogeneous membranes. Physical Review Research, 2021, 3, .	1.3	7
11	Addressing Differentiation in Live Human Keratinocytes by Assessment of Membrane Packing Order. Frontiers in Cell and Developmental Biology, 2020, 8, 573230.	1.8	9
12	Super-resolution RESOLFT microscopy of lipid bilayers using a fluorophore-switch dyad. Chemical Science, 2020, 11, 8955-8960.	3.7	18
13	Flotillin-Dependent Membrane Microdomains Are Required for Functional Phagolysosomes against Fungal Infections. Cell Reports, 2020, 32, 108017.	2.9	39
14	Maturation of Monocyte-Derived DCs Leads to Increased Cellular Stiffness, Higher Membrane Fluidity, and Changed Lipid Composition. Frontiers in Immunology, 2020, 11, 590121.	2.2	24
15	Affinity for the Interface Underpins Potency of Antibodies Operating In Membrane Environments. Cell Reports, 2020, 32, 108037.	2.9	10
16	Comparison of Multiscale Imaging Methods for Brain Research. Cells, 2020, 9, 1377.	1.8	13
17	Background Reduction in STED-FCS Using a Bivortex Phase Mask. ACS Photonics, 2020, 7, 1742-1753.	3.2	10
18	Creating Supported Plasma Membrane Bilayers Using Acoustic Pressure. Membranes, 2020, 10, 30.	1.4	6

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19	Influenza A viruses use multivalent sialic acid clusters for cell binding and receptor activation. PLoS Pathogens, 2020, 16, e1008656.	2.1	43
20	The cortical actin network regulates avidity-dependent binding of hyaluronan by the lymphatic vessel endothelial receptor LYVE-1. Journal of Biological Chemistry, 2020, 295, 5036-5050.	1.6	12
21	z-STED Imaging and Spectroscopy to Investigate Nanoscale Membrane Structure and Dynamics. Biophysical Journal, 2020, 118, 2448-2457.	0.2	22
22	Fluorescence Microscopy of the HIV-1 Envelope. Viruses, 2020, 12, 348.	1.5	7
23	Object detection networks and augmented reality for cellular detection in fluorescence microscopy. Journal of Cell Biology, 2020, 219, .	2.3	24
24	High photon count rates improve the quality of super-resolution fluorescence fluctuation spectroscopy. Journal Physics D: Applied Physics, 2020, 53, 164003.	1.3	15
25	Nanoscale dynamics of cholesterol in the cell membrane. Journal of Biological Chemistry, 2019, 294, 12599-12609.	1.6	44
26	HIV-1 Gag specifically restricts PI(4,5)P2 and cholesterol mobility in living cells creating a nanodomain platform for virus assembly. Science Advances, 2019, 5, eaaw8651.	4.7	59
27	Sterile activation of invariant natural killer T cells by ER-stressed antigen-presenting cells. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23671-23681.	3.3	21
28	Molecular recognition of the native HIV-1 MPER revealed by STED microscopy of single virions. Nature Communications, 2019, 10, 78.	5.8	31
29	Mechanical properties of plasma membrane vesicles correlate with lipid order, viscosity and cell density. Communications Biology, 2019, 2, 337.	2.0	105
30	Cytoskeletal Control of Antigen-Dependent T Cell Activation. Cell Reports, 2019, 26, 3369-3379.e5.	2.9	68
31	Measuring nanoscale diffusion dynamics in cellular membranes with super-resolution STEDâ€"FCS. Nature Protocols, 2019, 14, 1054-1083.	5.5	76
32	Cytoskeletal actin patterns shape mast cell activation. Communications Biology, 2019, 2, 93.	2.0	35
33	More Favorable Palmitic Acid Over Palmitoleic Acid Modification of Wnt3 Ensures Its Localization and Activity in Plasma Membrane Domains. Frontiers in Cell and Developmental Biology, 2019, 7, 281.	1.8	10
34	Super-resolution microscopy demystified. Nature Cell Biology, 2019, 21, 72-84.	4.6	754
35	Adaptive optics allows STED-FCS measurements in the cytoplasm of living cells. Optics Express, 2019, 27, 23378.	1.7	26
36	Capturing resting T cells: the perils of PLL. Nature Immunology, 2018, 19, 203-205.	7.0	62

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37	Zooming in on virus surface protein mobility. Future Virology, 2018, 13, 225-227.	0.9	1
38	Infection with a Brazilian isolate of Zika virus generates RIGâ€I stimulatory RNA and the viral NS5 protein blocks type I IFN induction and signaling. European Journal of Immunology, 2018, 48, 1120-1136.	1.6	106
39	Advances in bioimagingâ€"challenges and potentials. Journal Physics D: Applied Physics, 2018, 51, 040201.	1.3	11
40	Spironaphthoxazine switchable dyes for biological imaging. Chemical Science, 2018, 9, 3029-3040.	3.7	53
41	Orchestrated control of filaggrinâ€"actin scaffolds underpins cornification. Cell Death and Disease, 2018, 9, 412.	2.7	42
42	Optimized processing and analysis of conventional confocal microscopy generated scanning FCS data. Methods, 2018, 140-141, 62-73.	1.9	33
43	CD45 exclusionâ€" and cross-linkingâ€"based receptor signaling together broaden FcÎµRI reactivity. Science Signaling, 2018, 11, .	1.6	31
44	Lipid Composition but not Curvature Is the Determinant Factor for the Low Molecular Mobility Observed on the Membrane of Virus-Like Vesicles. Viruses, 2018, 10, 415.	1.5	12
45	Reconstitution of immune cell interactions in free-standing membranes. Journal of Cell Science, 2018, 132, .	1.2	25
46	Complementary studies of lipid membrane dynamics using iSCAT and super-resolved fluorescence correlation spectroscopy. Journal Physics D: Applied Physics, 2018, 51, 235401.	1.3	23
47	The 2018 correlative microscopy techniques roadmap. Journal Physics D: Applied Physics, 2018, 51, 443001.	1.3	99
48	Editorial. Methods, 2018, 140-141, 1-2.	1.9	4
49	FRET-enhanced photostability allows improved single-molecule tracking of proteins and protein complexes in live mammalian cells. Nature Communications, 2018, 9, 2520.	5.8	31
50	From Dynamics to Membrane Organization: Experimental Breakthroughs Occasion a â€œModeling Manifestoâ€. Biophysical Journal, 2018, 115, 595-604.	0.2	25
51	Super-resolution fluorescence microscopy studies of human immunodeficiency virus. Retrovirology, 2018, 15, 41.	0.9	37
52	Nanoparticles Can Wrap Epithelial Cell Membranes and Relocate Them Across the Epithelial Cell Layer. Nano Letters, 2018, 18, 5294-5305.	4.5	27
53	How to minimize dye-induced perturbations while studying biomembrane structure and dynamics: PEG linkers as a rational alternative. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 2436-2445.	1.4	31
54	Statistical Analysis of Scanning Fluorescence Correlation Spectroscopy Data Differentiates Free from Hindered Diffusion. ACS Nano, 2018, 12, 8540-8546.	7.3	27

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55	Nanoscale Spatiotemporal Diffusion Modes Measured by Simultaneous Confocal and Stimulated Emission Depletion Nanoscopy Imaging. Nano Letters, 2018, 18, 4233-4240.	4.5	28
56	Convergence of lateral dynamic measurements in the plasma membrane of live cells from single particle tracking and STED-FCS. Journal Physics D: Applied Physics, 2017, 50, 063001.	1.3	52
57	Glycosylation and Lipids Working in Concert Direct CD2 Ectodomain Orientation and Presentation. Journal of Physical Chemistry Letters, 2017, 8, 1060-1066.	2.1	22
58	Laurdan and Di-4-ANEPPDHQ probe different properties of the membrane. Journal Physics D: Applied Physics, 2017, 50, 134004.	1.3	119
59	Astrocytes Resist HIV-1 Fusion but Engulf Infected Macrophage Material. Cell Reports, 2017, 18, 1473-1483.	2.9	73
60	Self-organizing actin patterns shape membrane architecture but not cell mechanics. Nature Communications, 2017, 8, 14347.	5.8	99
61	Diffusion of lipids and GPI-anchored proteins in actin-free plasma membrane vesicles measured by STED-FCS. Molecular Biology of the Cell, 2017, 28, 1507-1518.	0.9	110
62	Dissecting the actin cortex density and membrane-cortex distance in living cells by super-resolution microscopy. Journal Physics D: Applied Physics, 2017, 50, 064002.	1.3	62
63	Binding of canonical Wnt ligands to their receptor complexes occurs in ordered plasma membrane environments. FEBS Journal, 2017, 284, 2513-2526.	2.2	45
64	Cytoskeletal actin dynamics shape a ramifying actin network underpinning immunological synapse formation. Science Advances, 2017, 3, e1603032.	4.7	143
65	The mystery of membrane organization: composition, regulation and roles of lipid rafts. Nature Reviews Molecular Cell Biology, 2017, 18, 361-374.	16.1	1,471
66	Dissection of mechanical force in living cells by super-resolved traction force microscopy. Nature Protocols, 2017, 12, 783-796.	5.5	53
67	Electroformation of Giant Unilamellar Vesicles on Stainless Steel Electrodes. ACS Omega, 2017, 2, 994-1002.	1.6	53
68	Macrophages: micromanagers of antagonistic signaling nanoclusters. Journal of Cell Biology, 2017, 216, 871-873.	2.3	0
69	Envelope glycoprotein mobility on HIV-1 particles depends on the virus maturation state. Nature Communications, 2017, 8, 545.	5.8	81
70	Polarity-Sensitive Probes for Superresolution Stimulated Emission Depletion Microscopy. Biophysical Journal, 2017, 113, 1321-1330.	0.2	63
71	Spectral imaging toolbox: segmentation, hyperstack reconstruction, and batch processing of spectral images for the determination of cell and model membrane lipid order. BMC Bioinformatics, 2017, 18, 254.	1.2	23
72	A dynamic and adaptive network of cytosolic interactions governs protein export by the T3SS injectisome. Nature Communications, 2017, 8, 15940.	5.8	68

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73	Modulation of the molecular arrangement in artificial and biological membranes by phospholipid-shelled microbubbles. Biomaterials, 2017, 113, 105-117.	5.7	44
74	HDL particles incorporate into lipid bilayers â€“ a combined AFM and single molecule fluorescence microscopy study. Scientific Reports, 2017, 7, 15886.	1.6	29
75	Phase Partitioning of GM1 and Its Bodipy-Labeled Analog Determine Their Different Binding to Cholera Toxin. Frontiers in Physiology, 2017, 8, 252.	1.3	34
76	There Is No Simple Model of the Plasma Membrane Organization. Frontiers in Cell and Developmental Biology, 2016, 4, 106.	1.8	139
77	Closing the gap: The approach of optical and computational microscopy to uncover biomembrane organization. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 2558-2568.	1.4	11
78	Use of <scp>BODIPY</scp>â€Cholesterol (<scp>TF</scp>â€Chol) for Visualizing Lysosomal Cholesterol Accumulation. Traffic, 2016, 17, 1054-1057.	1.3	28
79	Critical importance of appropriate fixation conditions for faithful imaging of receptor microclusters. Biology Open, 2016, 5, 1343-1350.	0.6	67
80	Photoswitchable Spiropyran Dyads for Biological Imaging. Organic Letters, 2016, 18, 3666-3669.	2.4	40
81	Reorganization of Lipid Diffusion by Myelin Basic Protein as Revealed by STED Nanoscopy. Biophysical Journal, 2016, 110, 2441-2450.	0.2	23
82	Super-resolution Microscopy Reveals Compartmentalization of Peroxisomal Membrane Proteins. Journal of Biological Chemistry, 2016, 291, 16948-16962.	1.6	66
83	ns-time resolution for multispecies STED-FLIM and artifact free STED-FCS. , 2016, , .		8
84	A comparative study on fluorescent cholesterol analogs as versatile cellular reporters. Journal of Lipid Research, 2016, 57, 299-309.	2.0	78
85	Super-Resolved Traction Force Microscopy (STFM). Nano Letters, 2016, 16, 2633-2638.	4.5	86
86	Why do peroxisomes associate with the cytoskeleton?. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 1019-1026.	1.9	35
87	A simple and versatile design concept for fluorophore derivatives with intramolecular photostabilization. Nature Communications, 2016, 7, 10144.	5.8	106
88	FoCuS-point: software for STED fluorescence correlation and time-gated single photon counting. Bioinformatics, 2016, 32, 958-960.	1.8	57
89	Regulation of peroxisomal matrix protein import by ubiquitination. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 838-849.	1.9	46
90	Spectral Imaging to Measure Heterogeneity in Membrane Lipid Packing. ChemPhysChem, 2015, 16, 1387-1394.	1.0	98

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91	CalQuo: automated, simultaneous single-cell and population-level quantification of global intracellular Ca2+ responses. Scientific Reports, 2015, 5, 16487.	1.6	10
92	The 2015 super-resolution microscopy roadmap. Journal Physics D: Applied Physics, 2015, 48, 443001.	1.3	291
93	STED-FLCS: An Advanced Tool to Reveal Spatiotemporal Heterogeneity of Molecular Membrane Dynamics. Nano Letters, 2015, 15, 5912-5918.	4.5	71
94	Cortical actin networks induce spatio-temporal confinement of phospholipids in the plasma membrane â€“ a minimally invasive investigation by STED-FCS. Scientific Reports, 2015, 5, 11454.	1.6	106
95	Lens-based fluorescence nanoscopy. Quarterly Reviews of Biophysics, 2015, 48, 178-243.	2.4	126
96	Membrane Nanoclustersâ€"Tails of the Unexpected. Cell, 2015, 161, 433-434.	13.5	10
97	A straightforward approach for gated STED-FCS to investigate lipid membrane dynamics. Methods, 2015, 88, 67-75.	1.9	50
98	Hydrophobic mismatch sorts SNARE proteins into distinct membrane domains. Nature Communications, 2015, 6, 5984.	5.8	130
99	Super-resolution optical microscopy of lipid plasma membrane dynamics. Essays in Biochemistry, 2015, 57, 69-80.	2.1	41
100	Peroxisomal Import Reduces the Proapoptotic Activity of Deubiquitinating Enzyme USP2. PLoS ONE, 2015, 10, e0140685.	1.1	9
101	Pathways to optical STED microscopy. NanoBioImaging, 2014, 1, .	1.0	18
102	Multi-protein assemblies underlie the mesoscale organization of the plasma membrane. Nature Communications, 2014, 5, 4509.	5.8	157
103	Scanning STED-FCS reveals spatiotemporal heterogeneity of lipid interaction in the plasma membrane of living cells. Nature Communications, 2014, 5, 5412.	5.8	257
104	Monitoring triplet state dynamics with fluorescence correlation spectroscopy: Bias and correction. Microscopy Research and Technique, 2014, 77, 528-536.	1.2	15
105	Editorial overview: Molecular imaging. Current Opinion in Chemical Biology, 2014, 20, v-vii.	2.8	3
106	High-Speed Single-Particle Tracking of GM1 in Model Membranes Reveals Anomalous Diffusion due to Interleaflet Coupling and Molecular Pinning. Nano Letters, 2014, 14, 5390-5397.	4.5	104
107	A lipid bound actin meshwork organizes liquid phase separation in model membranes. ELife, 2014, 3, e01671.	2.8	161
108	Nanoscopy with more than 100,000 'doughnuts'. Nature Methods, 2013, 10, 737-740.	9.0	231

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109	<scp>STED</scp> microscopy of living cells â€“ new frontiers in membrane and neurobiology. Journal of Neurochemistry, 2013, 126, 203-212.	2.1	62
110	STED microscopy detects and quantifies liquid phase separation in lipid membranes using a new far-red emitting fluorescent phosphoglycerolipid analogue. Faraday Discussions, 2013, 161, 77-89.	1.6	126
111	Membrane Orientation and Lateral Diffusion of BODIPY-Cholesterol as a Function of Probe Structure. Biophysical Journal, 2013, 105, 2082-2092.	0.2	60
112	FCS in STED Microscopy. Methods in Enzymology, 2013, 519, 1-38.	0.4	50
113	Fluorescence correlation spectroscopy with a total internal reflection fluorescence STED microscope (TIRF-STED-FCS). Optics Express, 2012, 20, 5243.	1.7	68
114	rsEGFP2 enables fast RESOLFT nanoscopy of living cells. ELife, 2012, 1, e00248.	2.8	188
115	Nanoscopy of Living Brain Slices with Low Light Levels. Neuron, 2012, 75, 992-1000.	3.8	117
116	Partitioning, diffusion, and ligand binding of raft lipid analogs in model and cellular plasma membranes. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 1777-1784.	1.4	301
117	gSTED Microscopy with an OPSL: Cutting Edge Superâ€Resolution. Optik & Photonik, 2012, 7, 44-46.	0.3	3
118	STED Nanoscopy Reveals Molecular Details of Cholesterol- and Cytoskeleton-Modulated Lipid Interactions in Living Cells. Biophysical Journal, 2011, 101, 1651-1660.	0.2	232
119	Diffraction-unlimited all-optical imaging and writing with a photochromic GFP. Nature, 2011, 478, 204-208.	13.7	434
120	Sharper low-power STED nanoscopy by time gating. Nature Methods, 2011, 8, 571-573.	9.0	396
121	A Versatile Route to Redâ€Emitting Carbopyronine Dyes for Optical Microscopy and Nanoscopy. European Journal of Organic Chemistry, 2010, 2010, 3593-3610.	1.2	96
122	Redâ€Emitting Rhodamine Dyes for Fluorescence Microscopy and Nanoscopy. Chemistry - A European Journal, 2010, 16, 158-166.	1.7	216
123	Characterization of Horizontal Lipid Bilayers as a Model System to Study Lipid Phase Separation. Biophysical Journal, 2010, 98, 2886-2894.	0.2	57
124	Fast molecular tracking maps nanoscale dynamics of plasma membrane lipids. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 6829-6834.	3.3	174
125	New GM1 Ganglioside Derivatives for Selective Single and Double Labelling of the Natural Glycosphingolipid Skeleton. European Journal of Organic Chemistry, 2009, 2009, 5162-5177.	1.2	35
126	Direct observation of the nanoscale dynamics of membrane lipids in a living cell. Nature, 2009, 457, 1159-1162.	13.7	1,392

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127	STED microscopy reveals crystal colour centres with nanometric resolution. Nature Photonics, 2009, 3, 144-147.	15.6	708
128	Exploring single-molecule dynamics with fluorescence nanoscopy. New Journal of Physics, 2009, 11, 103054.	1.2	79
129	Triplet-relaxation microscopy with bunched pulsed excitation. Photochemical and Photobiological Sciences, 2009, 8, 481.	1.6	52
130	Fluorescence Nanoscopy with Optical Sectioning by Twoâ€Photon Induced Molecular Switching using Continuousâ€Wave Lasers. ChemPhysChem, 2008, 9, 321-326.	1.0	81
131	Fluorescence nanoscopy by ground-state depletion and single-molecule return. Nature Methods, 2008, 5, 943-945.	9.0	700
132	Anatomy and Dynamics of a Supramolecular Membrane Protein Cluster. Science, 2007, 317, 1072-1076.	6.0	405
133	Wide-field subdiffraction RESOLFT microscopy using fluorescent protein photoswitching. Microscopy Research and Technique, 2007, 70, 269-280.	1.2	103
134	Reversible photoswitching enables singleâ€molecule fluorescence fluctuation spectroscopy at high molecular concentration. Microscopy Research and Technique, 2007, 70, 1003-1009.	1.2	26
135	Major signal increase in fluorescence microscopy through dark-state relaxation. Nature Methods, 2007, 4, 81-86.	9.0	254
136	Resolution of Î» /10 in fluorescence microscopy using fast single molecule photo-switching. Applied Physics A: Materials Science and Processing, 2007, 88, 223-226.	1.1	74
137	Two-color far-field fluorescence nanoscopy based on photoswitchable emitters. Applied Physics B: Lasers and Optics, 2007, 88, 161-165.	1.1	148
138	Macromolecular-scale resolution in biological fluorescence microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 11440-11445.	3.3	481
139	Fluorescence Fluctuation Spectroscopy in Reduced Detection Volumes. Current Pharmaceutical Biotechnology, 2006, 7, 51-66.	0.9	55
140	Molecular Photobleaching Kinetics of Rhodamine 6G by One- and Two-Photon Induced Confocal Fluorescence Microscopy. ChemPhysChem, 2005, 6, 791-804.	1.0	241
141	Structure and mechanism of the reversible photoswitch of a fluorescent protein. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 13070-13074.	3.3	253
142	Fluorescence Fluctuation Spectroscopy in Subdiffraction Focal Volumes. Physical Review Letters, 2005, 94, 178104.	2.9	195
143	Breaking the diffraction barrier in fluorescence microscopy at low light intensities by using reversibly photoswitchable proteins. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 17565-17569.	3.3	734
144	Highly sensitive fluorescence detection technology currently available for HTS. Drug Discovery Today, 2003, 8, 632-641.	3.2	108

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145	Data registration and selective single-molecule analysis using multi-parameter fluorescence detection. Journal of Biotechnology, 2001, 86, 163-180.	1.9	265
146	Photobleaching of Fluorescent Dyes under Conditions Used for Single-Molecule Detection:Â Evidence of Two-Step Photolysis. Analytical Chemistry, 1998, 70, 2651-2659.	3.2	625
147	A Highly Fluorescent Dinuclear Aluminium Complex with Nearâ€Unity Quantum Yield. Angewandte Chemie, 0, , .	1.6	0